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KD-Validated Anti-PRKAG1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1320

Product Information

Application	WB, ICC
Primary Accession	P54619
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	25GB2915
Calculated MW	37579
Gene Name	PRKAG1
Aliases	PRKAG1; Protein Kinase AMP-Activated Non-Catalytic Subunit Gamma 1; Protein Kinase, AMP-Activated, Gamma 1 Non-Catalytic Subunit; 5'-AMP-Activated Protein Kinase Subunit Gamma-1; AMPK Gamma1; 5'-AMP-Activated Protein Kinase, Gamma-1 Subunit; AMPK Subunit Gamma-1; AMPK Gamma-1 Chain; AMPKG; AMPKg
Immunogen	A synthesized peptide derived from human AMPK gamma 1

Additional Information

Gene ID	5571
Other Names	5'-AMP-activated protein kinase subunit gamma-1, AMPK gamma1, AMPK subunit gamma-1, AMPKg, PRKAG1

Protein Information

Name	PRKAG1
Function	AMP/ATP-binding subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism (PubMed:21680840, PubMed:24563466). In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation (PubMed:21680840, PubMed:24563466). AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators (PubMed:21680840, PubMed:24563466). Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin (PubMed:21680840, PubMed:24563466). Gamma non-catalytic subunit mediates binding to AMP, ADP and ATP, leading to activate or inhibit AMPK: AMP-binding results in allosteric activation of alpha catalytic subunit (PRKAA1 or PRKAA2) both by inducing phosphorylation and preventing dephosphorylation of catalytic subunits (PubMed:21680840,

PubMed:24563466). ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit (PubMed:21680840, PubMed:24563466). ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive (PubMed:21680840, PubMed:24563466).

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